

**UNITED STATES DEPARTMENT OF COMMERCE****United States Patent and Trademark Office**Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/473, 904 12/28/99 CHEE

M A-67493-2RFT

HM12/1019

EXAMINER

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PRASTHOFER, T

ART UNIT PAPER NUMBER

1627

DATE MAILED:

10/19/01

Please find below and/or attached an Office communication concerning this application or proceeding.

**Commissioner of Patents and Trademarks**

<b>Office Action Summary</b> <i>file copy</i>	Application No.	Applicant(s)
	09/473,904	CHEE ET AL.
	Examiner	Art Unit
	Thomas W Prasthofer	1627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 13 August 2001.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 18-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 18-34 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a)  The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .  | 6) <input type="checkbox"/> Other: _____                                    |

## **Detailed Action**

### **Status of the Application**

Receipt is acknowledged of a response to an office action on August 13, 2001 in Paper No. 12.

### **Status of the Claims**

Claims 18-34 are pending and are being examined on their merits.

### **Withdrawn Rejections**

1. The rejections of claims 18-32 under 35 U.S.C.112 second paragraph in the office action mailed on May 7, 2001 (Paper No. 11, paragraphs 1-9) are withdrawn in response to applicant's amendment.
  
2. The rejection of claim 28 under 35 U.S.C. 102(e) in paragraph 10 of Paper No. 11 is withdrawn in response to applicant's argument.

### **Maintained Rejections**

#### **Maintained Rejections – 35 U.S.C. 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 18, 20, 22, 23, and 29-32 remain rejected under 35 U.S.C. 102(e) as being anticipated by Walt et al. (February 2000, filed March 1997) U.S. Patent 6,023,540 for reasons made of record in Paper No. 11.

Applicant argues that the office action mailed May 7, 2001 does not indicate where in Walt et al. a plurality of assay locations on a substrate is disclosed and that the surface of claim 18 is not explicitly disclosed in Walt et al.

Applicant's arguments have been carefully considered and are not found to be persuasive. Column 2, lines 59-64 of Walt et al. disclose a "*single, discrete, fiber optic bundle*." Such a bundle anticipates the presently claimed "*substrate with a surface*." Column 3, lines 17-30 of the Walt et al. reference disclose that microspheres may be "*optically coupled to discrete fibers or groups pf fibers*." Groups of fibers within a bundle anticipate the presently claimed "*plurality of assay locations*" and the individual fibers within each group of fibers anticipates the presently claimed "*plurality of discrete sites*."

The rejection is maintained.

### **Maintained Rejections – 35 U.S.C. 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 18-32 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Walt et al. US Patent No. 6,023,540, Geysen, US Patent No. 5,595,915, and Brenner US Patent No. 5,763,175 for reasons made of record in Paper No. 11.

Applicant's arguments over the Walt et al. reference have been addressed in the preceding paragraph.

Applicant argues that neither Walt et al. nor the knowledge available to one skilled in the art provides motivation to practice the invention as presently claimed.

Applicant's argument has been carefully considered and is not found to be persuasive. In Paper No. 11, paragraph 12, examiner presented a prima facie argument that it would have been obvious to one of ordinary skill in the art at the time that the invention was made to "*scale up the number of analytes that could be screened for simultaneously.*" Applicant does not appear to argue that one of ordinary skill in the art would not have been motivated in increase the number of analytes screened for. Applicant appears to argue that one of ordinary skill in the art would not have been motivated to scale up the number of analytes screened for using the presently claimed method. As stated in the previous office action, however, the use of microtiter plates was routine, if not standard, in the art at the time that the invention was made. It would have been obvious to one of ordinary skill in the art to use microtiter plates combined with groups of fibers from a fiber optic fiber bundle in order to screen for multiple analytes simultaneously. One would have been motivated to do so to increase screening efficiency. One would have had a reasonable expectation for success because Walt et al. had already disclosed that the combined use of fiber optic bundles with dye-encoded microspheres "*yields an optical fiber sensor that can support large numbers, thousands or more, of separate chemical functionalities, which is relatively easy to manufacture and use.*"

The rejection is maintained.

#### **New Grounds of Rejection – Necessitated by applicant's amendment**

#### **Claims Rejections - 35 U.S.C. 112, first paragraph**

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 20, 33, and 34 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (New Matter).

Claim 20 has been amended to recite that each assay location comprises a “*library*” of bioactive agents. New claims 33 and 34 recite the library of bioactive agents in claim 20. Applicant points to page 13, lines 29-31 of the specification for support of each assay location comprising a “*library*” of bioactive agents. Page 13, lines 29-31 discloses that “*a library of bioactive agents are used*” but does not disclose that each assay location comprises a library of bioactive agents. Applicant may overcome this rejection by pointing out where support can be found in the specification for **each assay location** comprising a library of bioactive agents.

6. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walt et al. US Patent No. 6,023,540.

The Walt et al. reference teaches a microsphere-based analytical chemistry system including optical encoding and an optical fiber bundle sensor. The teachings of the Walt et al. reference is described in detail in the outstanding rejection of claims 18, 20, 22, 23, and 29-32 and are incorporated by reference herein in their entirety.

The Walt et al. reference does not explicitly teach assay locations comprising libraries bioactive agents that are the same or different at each assay location.

It would have been obvious to one of ordinary skill in the art at the time that the invention was made to assay a library of bioactive agents at each assay location. One would have been motivated to do so because column 14, lines 16-17 of Walt et al. discloses that sensors may be used “*in the presence of one or more*” substrates and column 9, line 60 – column 10, line 3 disclose that the sensors may be used diagnostically (i.e. on a biological sample containing a mixture, or “*library*” of analytes). One would have had reasonable expectation for success because the Walt et al. reference discloses the use of fiber optic sensors for these purposes. The design choice of using the same or different libraries at two assay locations (based upon the desired application of the method) would have been well within the abilities of one of ordinary skill in the art at the time that the invention was made.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
8. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Thomas Prasthofer** at telephone number **(703) 308-4548**. The examiner can normally be reached on Monday, Tuesday, Friday, and Saturday 8:00-6:30.
10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jyothsna Venkat can be reached on (703) 308-2439. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-2742.
11. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist at (703) 308-1235.

Thomas Prasthofer, Ph.D.

  
DR. JYOTHSNA VENKAT PH.D  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1600

October 15, 2001